Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ORD. LYCOGALACEAE.

86. *Lycogala miniatum* Pers.=*L. epidendrum* List. Very common. Cumberland (Blake). Rangely (Rex.). Orono (Harvey).

On a new Species of Scrophularia hitherto confounded with S. Marylandica.

BY EUGENE P. BICKNELL.

Two totally distinct species of *Scrophularia* are included under the name *Scrophularia Marylandica*, the common Figwort of the Eastern States. The true *S. Marylandica* is a late-flowering plant, beginning to bloom in the neighborhood of New York from the second to the fourth week of July, and continuing to bear flowers into late September or even October. The other species blooms in the spring and early summer—from about the middle of May until late June or early July. Its latest flowers are gone long before the earliest of *S. Marylandica* appear.*

It is not a little remarkable that this very noteworthy difference in the flowering-periods of these common plants should have remained so long undetected, and the fact readily explains why only a single species has been recognized; for, so close is the resemblance between these two figworts that, were their flowering periods identical, their distinctness would scarcely have been suspected. The case affords a striking illustration of extremely close general resemblance between species fundamentally distinct.

That I am not wrong in thus characterizing these plants will, I think, sufficiently appear from a comparison of their roots alone which exhibit notable differences both in morphology and in anatomical structure. It is to be especially remarked, also, that each plant has a characteristic odor distinctly different from that of the other.

It is a matter of curious interest now to recall the long-existing differences of opinion as to whether our *S. Marylandica*,

---

*Observations made the present season show that this general rule is not without exceptions. On July 7th, among an abundant growth of the early-flowering species on a shaded northern slope, three belated flowers were found; the same day some plants of *S. Marylandica* which had strayed from the woods into damp open ground showed their first flowers.

actually embracing two species, was or was not different from the European *S. nodosa.* Of the latter plant I have seen only two incomplete specimens, enough, however, to satisfy me that it is perfectly distinct from both of its East American relatives.

I have not overlooked that Pursh ascribed two species of *Scrophularia* to the Eastern States. There cannot be any doubt, however, that his *S. lanceolata* was merely a form of *S. Marylandica*, as authorities have ruled. At first glance the brief description of the former might seem to point to our early-flowering species, but a more careful reading does not allow this view. Not only is no one of the essential characters of this plant defined, but the flowering period given by Pursh—" Aug.–Sep."—is alone conclusive against his *S. lanceolata* being the same as our species which flowers in May and June. Moreover, Pursh's description perfectly accommodates certain narrow-leaved forms of true *S. Marylandica.*

As bearing on this point it may be noted that in the Herbarium of Columbia University is a sheet of true *S. Marylandica*, labeled in Dr. Torrey's hand " *S. lanceolata*, Pursh," followed by the full reference to Pursh's publication. Another sheet of Dr. Torrey's labeled *S. Marylandica* exhibits specimens of both our species.

For the new plant I propose the name *Scrophularia leporella* * in reference to the flower which bears a curious resemblance to a little rabbit sitting upright with ears erect. In the very similar flowers of *S. Marylandica* the same resemblance is seen, but is less striking.

---

* Since this was written Mr. P. A. Rydberg has described a new *Scrophularia* from the Black Hills of South Dakota as *Scrophularia nodosa occidentalis.* (Cont. U. S. Nat. Herb. 3 : 517.) Mr. Rydberg, who has seen specimens of my *S. leporella* declares that it is not the same as the Dakota plant, the types of which were large-flowered, and showed a peculiar basal cutting of the leaves something like that seen in *S. Californica.* Certain specimens of *Scrophularia* from Nebraska in the Columbia Herbarium, which Mr. Rydberg regards as referable to his *occidentalis* seem to show a close affinity to *leporella*, and are certainly nearer to it than to *Marylandica.* It is evident from this that the western plant should stand as *Scrophularia occidentalis.* It would be clearly illogical to maintain it as a variety of the European *nodosa*, and, if it should prove to be related varietally to one of our eastern species, that species would almost certainly be *S. leporella*, which would have to take the varietal designation.

Scrophularia Marylandica L.

Erect, mostly 5°–6° tall (3°–10°), large plants becoming widely candelabrate branched above, the branches sometimes reaching an expanse of 5°. Stem glabrous and shining, four-sided with rounded angles and deeply grooved or impressed sides, more or less acutely quadrangular above. Panicles terminal on stem and branches, often somewhat pyramidal, mostly about 1° long (6′–2°) and leafy at the base, glandulose above and in the cymes, the glandules purple, stalked or terminating minute hairs. Cymes racemose, numerous, rather close, widely spreading or ascending, varying from short and contracted to loose and open, 2′–5′ in length and breadth, the peduncles usually much shorter than the branches. Perfectly developed cymes are formed by the forking of the peduncle into two diverging, evenly zig-zag branches bearing at each angle a slender-pedicelled flower, a solitary longer-pedicelled flower rising from the angle of the fork. In many cases the structure is less regular, and more contracted cymes may be irregularly dichotomous. Cymes bracteolate throughout, the bracteoles subtending the pedicels mostly in opposite pairs, linear-subulate, spreading or recurved. Flowers few to many; on the lower cymes rarely less than 9–11 and frequently twice that number. Leaves slender-petioled, deep green, rather thin and veiny, glabrous above (with fine scattered hairs when young) minutely pubescent below (nearly glabrous to softly pubescent) often very large, reaching a length of 1° and a breadth of 6′, mostly ovate-lanceolate from a rounded or sub-cordate base, but varying greatly, from cordate-ovate and acute to lanceolate and acuminate with acute or narrowed base; uppermost leaves often narrowly lanceolate tapering to either end. The leaves vary also from regularly or irregularly serrate or dentate to coarsely doubly dentate-serrate or even sharply dentate lobed. Petioles long and slender, from ⅓ to ¾ the length of the blade, or longer in the lower leaves, becoming gradually shorter in the upper leaves, ciliate-pubescent along the upper side, sometimes glabrate; nodes of the stem between the petioles often ciliate-fringed. A fascicle of small leaves or a single pair, often quite rudimentary, occupies the axil of each cauline leaf; lowest leaves of the stem large and fully developed, on long petioles. Corolla ventricose-ovoid, puncticulate with pellucid glands, 3″–4″ long, 2″–2½″ wide, little contracted at the throat, the lobes short, the lateral pair and the upper lip usually slightly spreading, the lobes of the upper lip short and rounded; outside of tube green, appearing dull and finely cellular, the interior shining and with the upper lip mostly deep brownish purple; not infrequently the flower is nearly all greenish-yellow. Sterile stamen with its adnate filament deep purple, about ¾″ broad; style filiform, scarcely enlarged at base. Calyx-lobes orbicular to oblong, obtuse, scarcely margined. Flower-buds dull green before expanding. Capsule 2″–3″ long, about 2″ wide, short-ovoid or subglobose, mostly abruptly contracted or rounded to a slender mucronate point, often becoming black. Rarely the capsule is 3, 4 or 5-celled.

Woodland in rich soil, usually about rocky places, sometimes at the borders of thickets in low grounds.

Begins to flower at New York about the middle of July (July 7–28). In some seasons flowers are still to be found at the end of September.

Specimens have been examined from various localities from New York and Ohio to North Carolina, Tennessee and Kansas.

SCROPHULARIA LEPORELLA n. sp.

Lower than *S. Marylandica*, mostly 3°–4° tall (2°–7°), erect, but sometimes inclined from the weight of the fruiting panicle, commonly simple or nearly so, or developing a few ascending slender branches, rarely strongly branched. Stem throughout quadrangular with flat sides and acute margined angles, more or less glandular-puberulent especially when young, becoming glabrate below, viscid-glandular above and throughout the panicle; glandulosity finer and closer than in *Marylandica*, the smaller glandules pale. Panicle commonly longer and narrower than in *Marylandica*, 1°–3° in length, naked or with small leaves subtending the lowest cymes. Cymes commonly fewer-flowered and more contracted than in *Marylandica*, the branches and pedicels less slender and spreading, mostly under 2′ long and broad (1′–3′, rarely longer), ascending, frequently much separated, the branches often not longer than the peduncles, the bracteoles mostly not in pairs or finally recurved as in *Marylandica*, but solitary and somewhat appresed or incurved. Flowers of the cymes mostly 5–7, rarely more than 11, sometimes only 3 in each cyme throughout. Exceptionally, on strongly developed plants, the cyme may be as long-branched and many-flowered as in *Marylandica*, presenting, however, a very distinct appearance from the more ascending branches and pedicels and longer more attenuate capsules. Leaves commonly smaller than in *Marylandica* (largest 10′ x 4′) thicker and less rugose, brighter green, glabrous both sides, somewhat shining below (when young with some minute glandular hairs on the veins above and below) varying from deltoid-ovate through ovate and oblong to lanceolate and narrowly lanceolate, truncate, cordate, rounded or tapering at the base, from finely and evenly to coarsely and irregularly dentate-serrate or sharply cut dentate, sometimes with acuminate and elongated spreading uncinate teeth. Petioles short, from ⅛ to ⅓ the length of the blade, stouter than in *Marylandica*, finely glandular-puberulent, on the upper side short-ciliate. Leaves of the axillary fascicles larger than in *Mary-*

landica, the fascicles sometimes developing into short sterile branches. Lower leaves of the stem reduced or rudimentary, early deciduous, the lowest reduced to appressed scaly bracts. Corolla longer and narrower than in *Marylandica*, more delicately veined but not glandular-puncticulate, more contracted at the throat 4″–5″ long, 2″ broad, the lobes longer than in *Marylandica*, especially the upper one, the two lateral lobes erect or slightly incurved, the lobes of the upper lip often narrowly oblong. Surface of the corolla-tube shining, greenish and purplish, the interior green and dull, the lobes varying from yellowish-green to dull purplish-red, or sometimes a bright pink-red; sterile stamen greenish-yellow, its lobe slightly more adherent than in *Marylandica* and mostly more abruptly dilated to the broadly truncate top which is ½″–1″ wide. Calyx-lobes broadly or narrowly ovate, obtuse or acute, slightly margined. Flower-buds shining, bright green with a purple spot at the top. Capsules ovoid-conic to elongated-conic or attenuate, passing into the thickened base of the style, 2″–5″ long, 1½″–3½″ wide, at maturity slightly compressed and impressed along the sutures, mostly brown, the surface often distinctly reticulate-veined. Seeds a little larger than those of *Marylandica* and darker, otherwise similar—irregularly oblong, often curved, strongly wrinkled striate and pitted. Roots fewer and simpler than in *Marylandica*, much stouter and longer, coalescing basally to form a large irregular woody structure which may be as much as six inches in longer diameter.

Wooded hillsides in rich soil, straying into open ground along roadsides where it sometimes becomes much branched and unusually stoutly developed.

Common near New York City. Dr. Britton finds it common on Staten Island. I have met with it within eight miles of the Connecticut line and in the Pocono region of eastern Pennsylvania. Its further distribution remains to be ascertained.

Begins to flower at New York from before the middle of May to the end of the month. Full sized fruit is already formed early in June, and by the end of the month only a few belated flowers, if any, remain.

Although this species occurs in much the same kind of situations as *S. Marylandica*, the two are rarely found growing together, or even inhabiting the same piece of woods. Near New York are various tracts of woodland inhabited exclusively by one or the other species; twice only have I found them growing together, apparently in accidental association in both cases.

Allusion has been made to differences in the root-structure of these two figworts. These differences are so distinctly marked, even to the unaided eye, that identification may safely rest on a mere glance at a fragment of the fresh root. In *Marylandica* the central cylinder is slender, occupying only about one-third of the diameter of the root; it is hence of about the thickness of the surrounding cortex, from which it is sharply distinguished by its greater whiteness, especially at its tough and lignified outer walls. Upon attempting to break the root the cortex is easily ruptured and peels off smoothly from the central cylinder which bends readily but refuses to break. In *leporella* the central cylinder is of softer texture and much larger, occupying the greater part of the interior of the root; its walls are not lignified, nor is it sharply marked off in color from the surrounding thin layer of cortex, which is not readily disengaged from it. The root is easily snapped in two, showing an even plane of fracture.

A comparison of the flowers of these plants shows a curious reversal of color characters between them. In *Marylandica* the surface of the corolla tube is green and dull, the interior shining and brownish-purple; in *leporella* the outside of the tube is purplish and shining, the interior green and dull. The color of the sterile stamen, deep purple in *Marylandica*, yellowish-green in *leporella* is absolutely constant, that is to say, a reference to hundreds of flowers of each species has discovered no exception. Even in flowers of *Marylandica* which are pale green nearly throughout, the sterile stamen remains purple; conversely, in the most highly colored flowers of *leporella* the green stamen is without the slightest purple tinge.

The early annual shoots of these plants show some interesting comparative differences. Before the end of April the stouter shoots of *leporella* are already a foot or more high, four or five times as tall as those of *Marylandica*. In the former the base of the shoot is leafless, often for several inches, and invested with broad, appressed, overlapping scales or bracts (modified petioles); these show a gradual transition into the small lower leaves. The early leaves have broad, flat petioles, sometimes nearly half an inch wide; the bases of the blades are mostly entire and sharply truncate. In *Marylandica* the lowest pair of leaves are large and fully developed, on long slender petioles which rise from nearly the extreme base of the shoot.